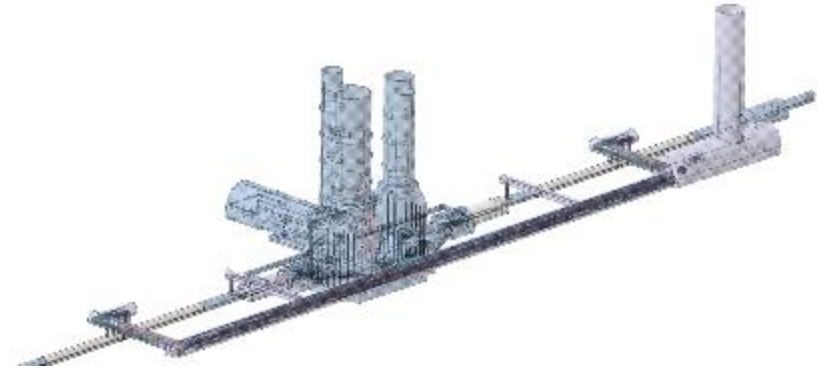




High
Luminosity
LHC



HL-LHC integration

Frozen baseline

18th/09/2015

The SC link zoom

INTEGRATION: C. Magnier, S. Maridor, B. Vazquez de Prada
R. Calaga, F. Killing, E. Montesinos and the whole **WP4**
A.Masi, A. Rossi, S. Redaelli and the whole **WP5**
A.Ballarino, A. Jacquemod and the whole **WP6a**
J.P. Burnet, C. Coupat and the whole **WP6b**
F. Rodriguez Mateos, D. Wollmann **WP7**
S. Claudet **WP9**
G. Arduini, M. Fitterer: **WP2**
EN-MME: M. Guinchard Lukasz Jerzy Lacny

WP17: Isabel Bejar Alonso

R. Calaga, F. Killing, E. Montesinos and the whole WP4

J.P. Burnet, C. Coupat and the whole WP6b

S. Claudet WP9

EN-EL: Gerard Cumer, Nuno Dos Santos, Jean-Claude Guillaume

EN-CV: M. Battistin, F. Boralho, P. Pepinster

EN-HE: C. Bertone, B. Feral, R. Rinaldesi, I. Ruehl

GS-ASE: T. Hakulinen, S. De Luca, P. Ninin

GS-SE: J. Osborne, P. Mattaelar

T. Otto

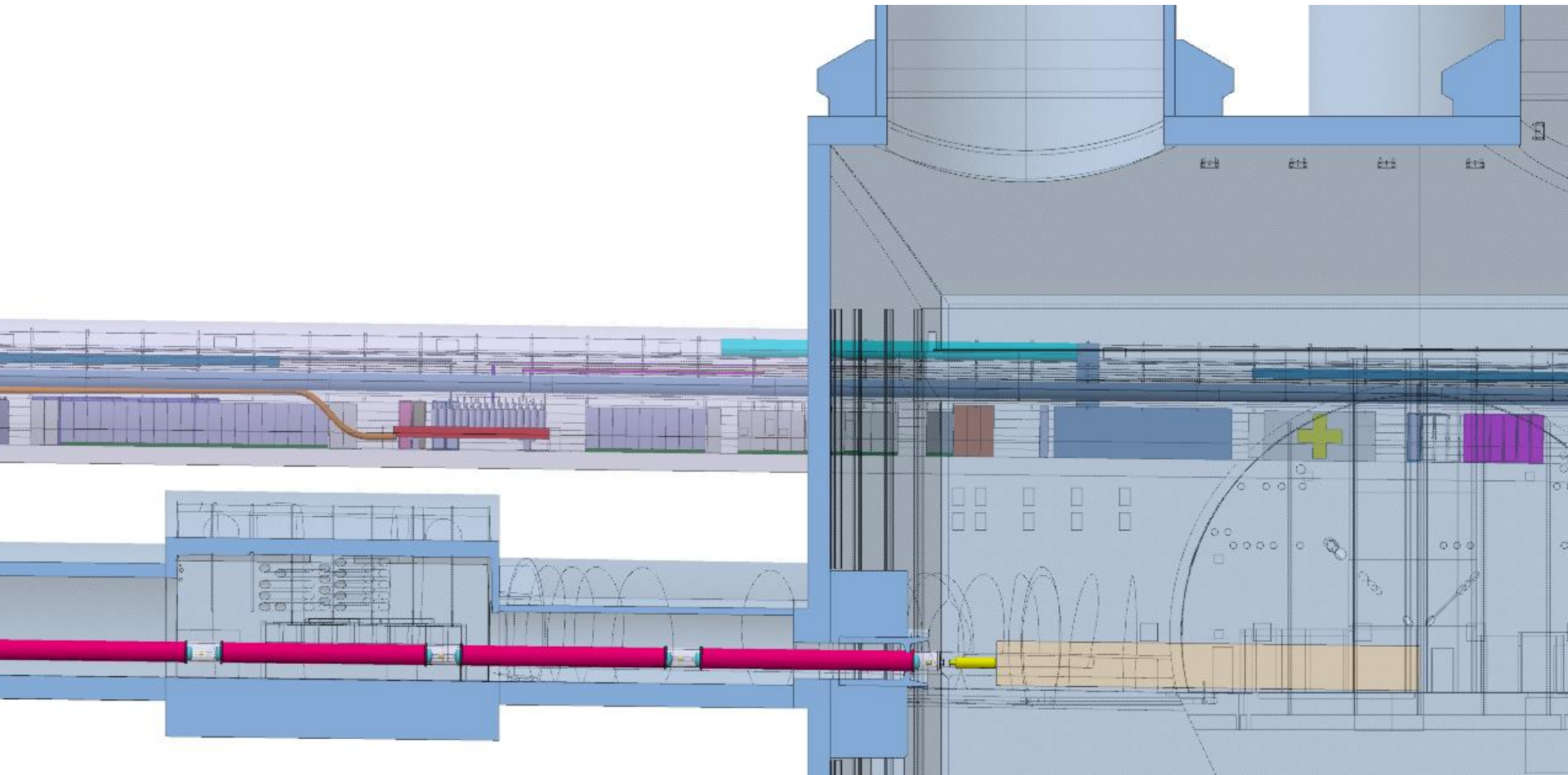
DGS-RP: C. Adorisio

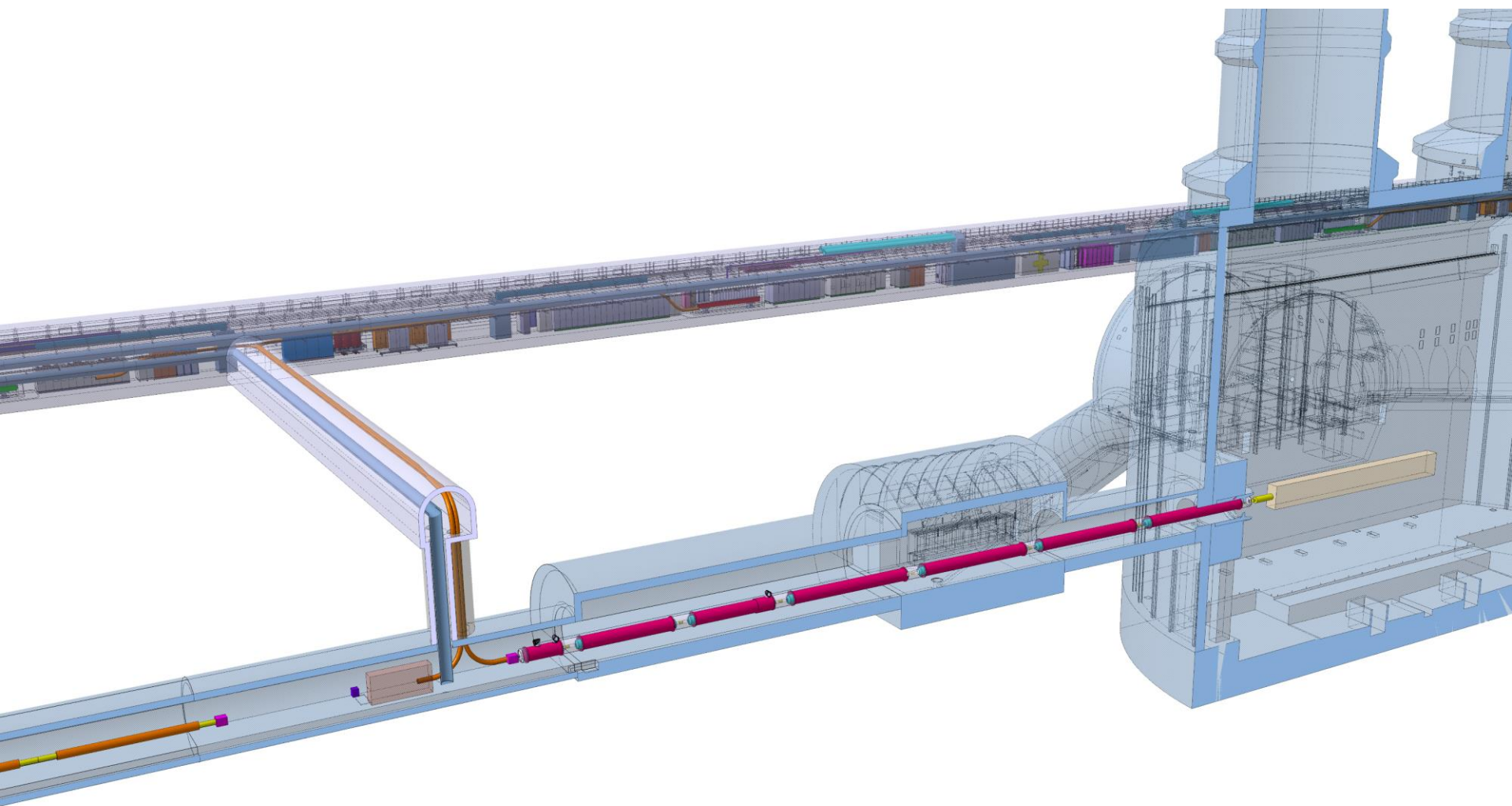
DGS-SEE: J. Gascon

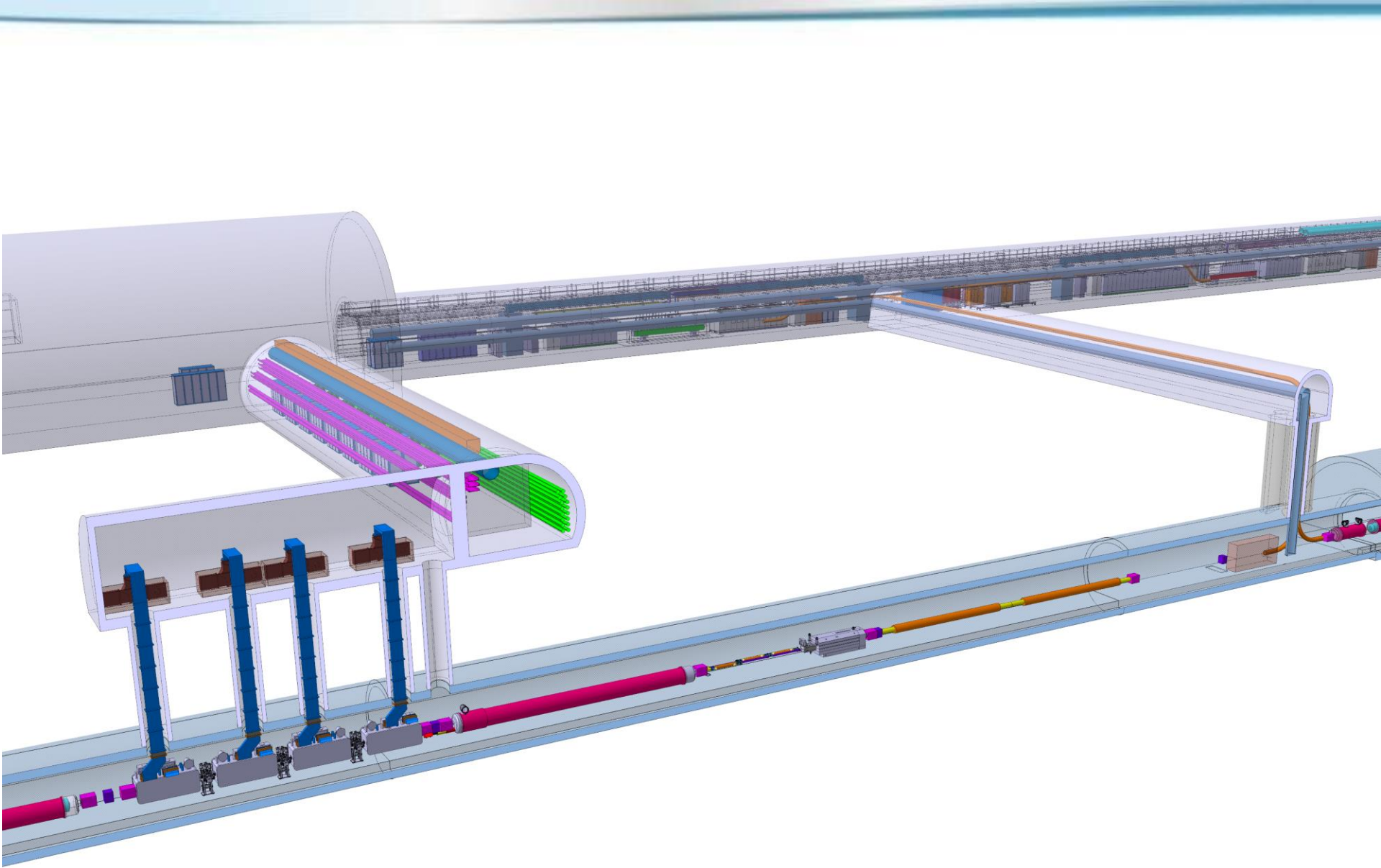
Prepared by P. Fessia

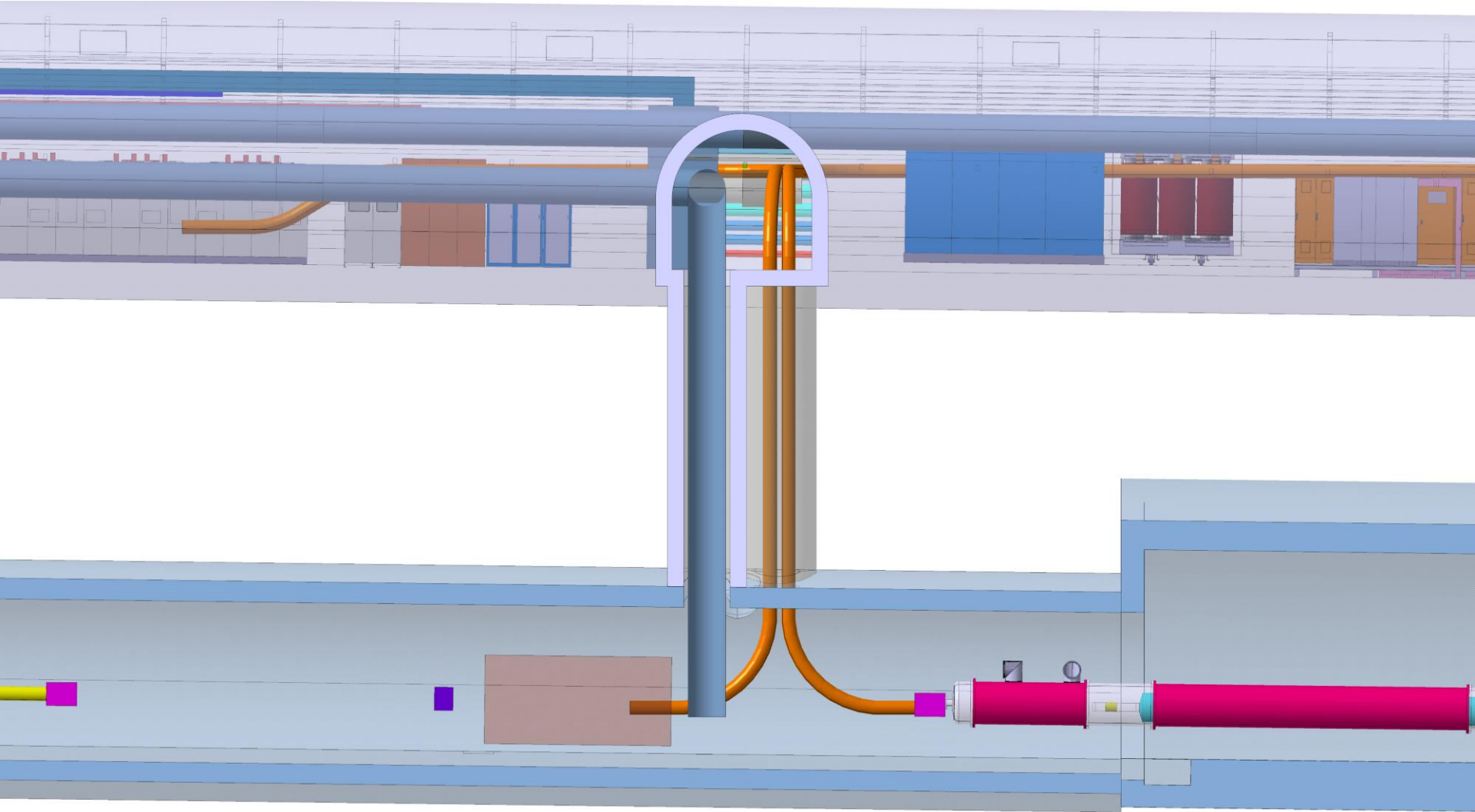
Summary

- SC links in machine perspective
- The present status of integration of the SC links
- Some details and constraints
- What we would need next

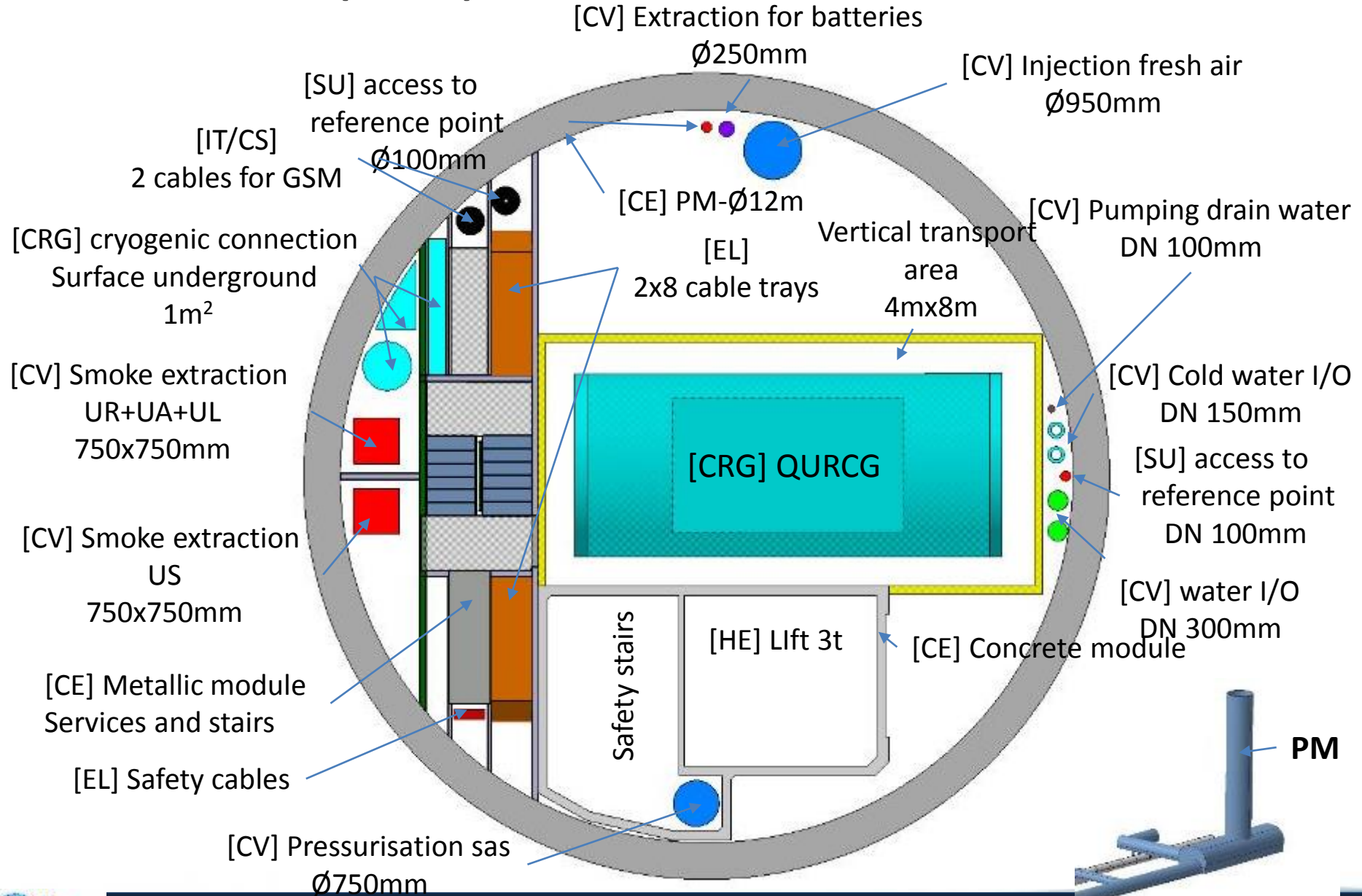




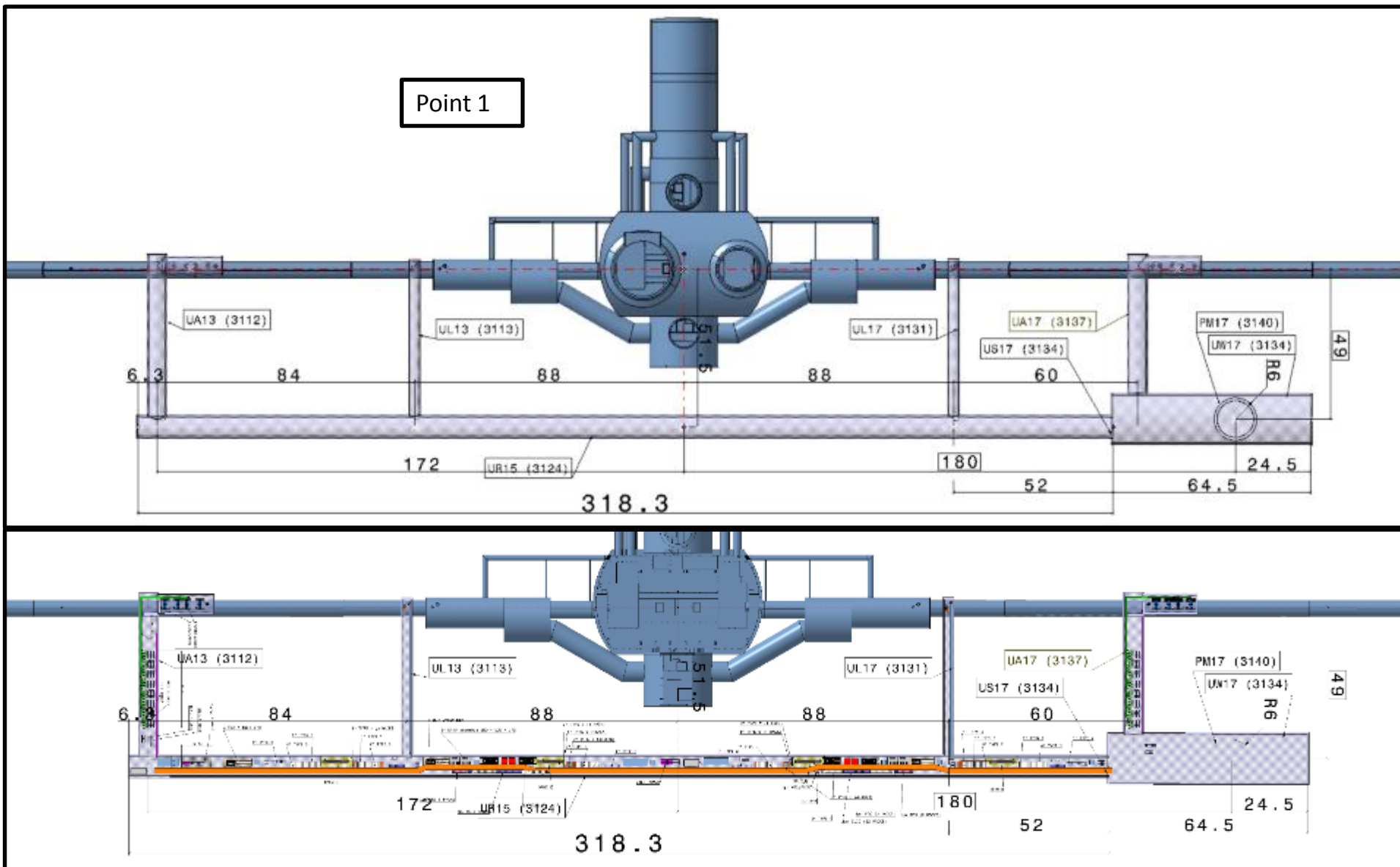




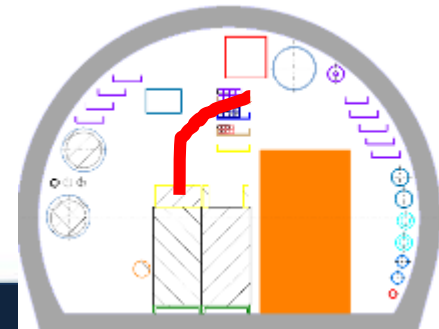
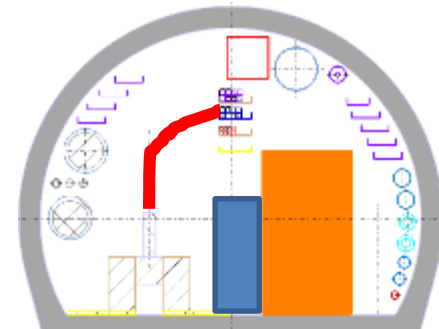
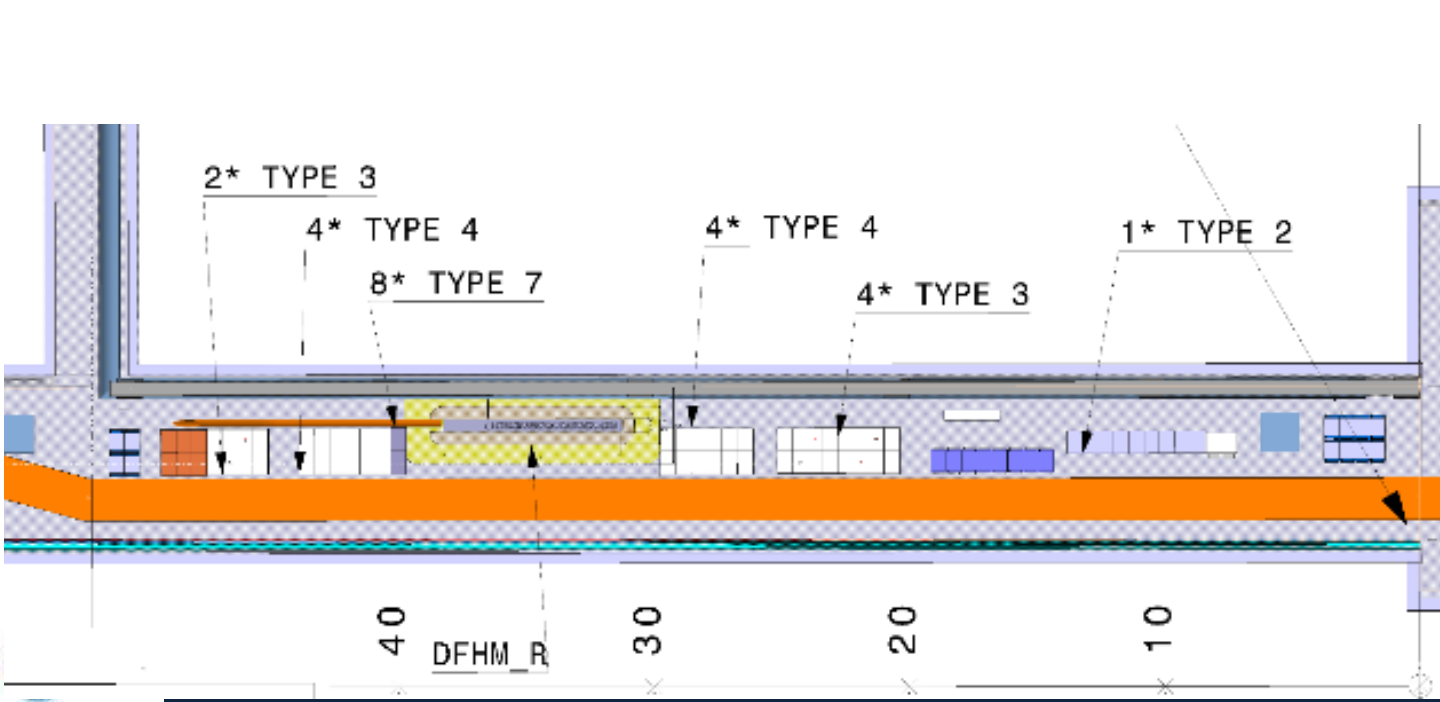
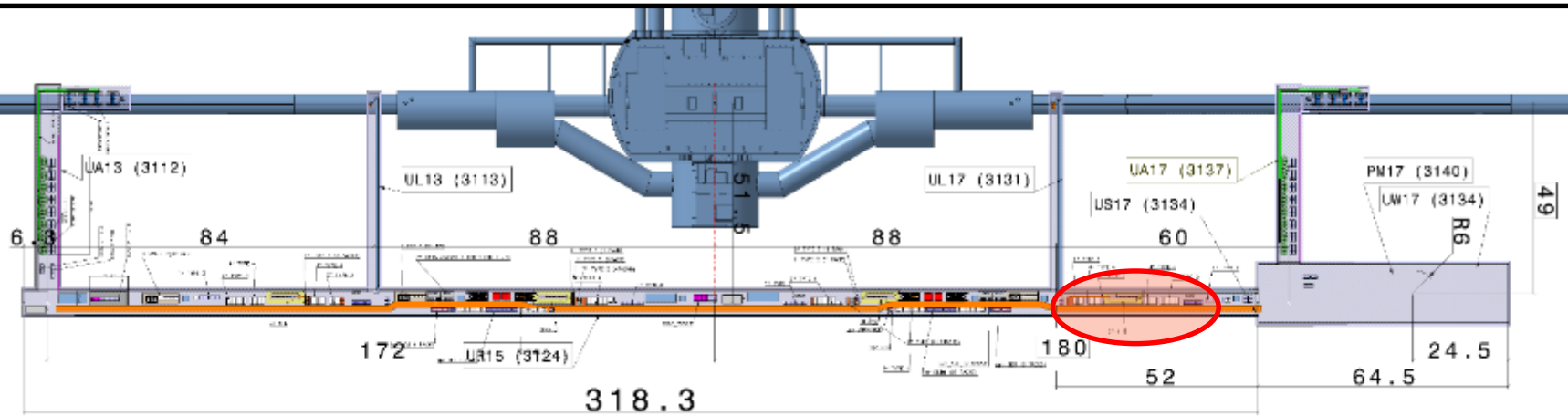
The Shaft (PM): how to fill 12 meter of diameter



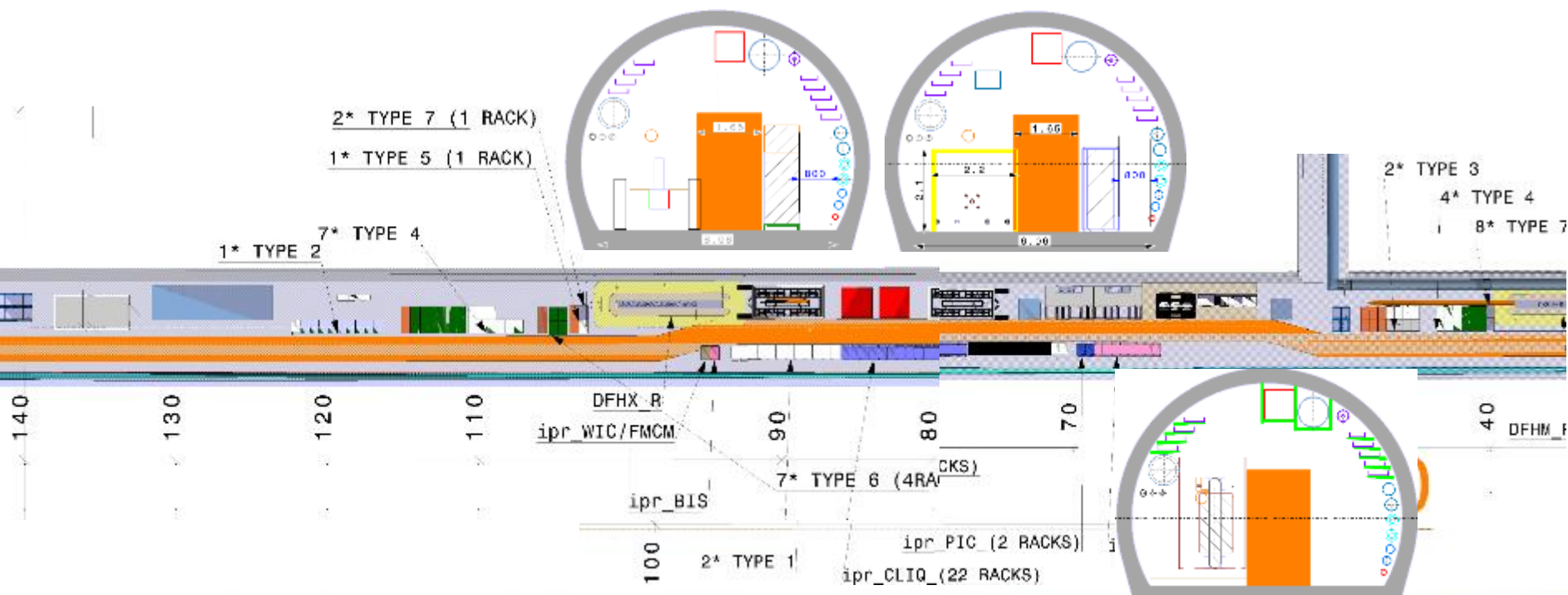
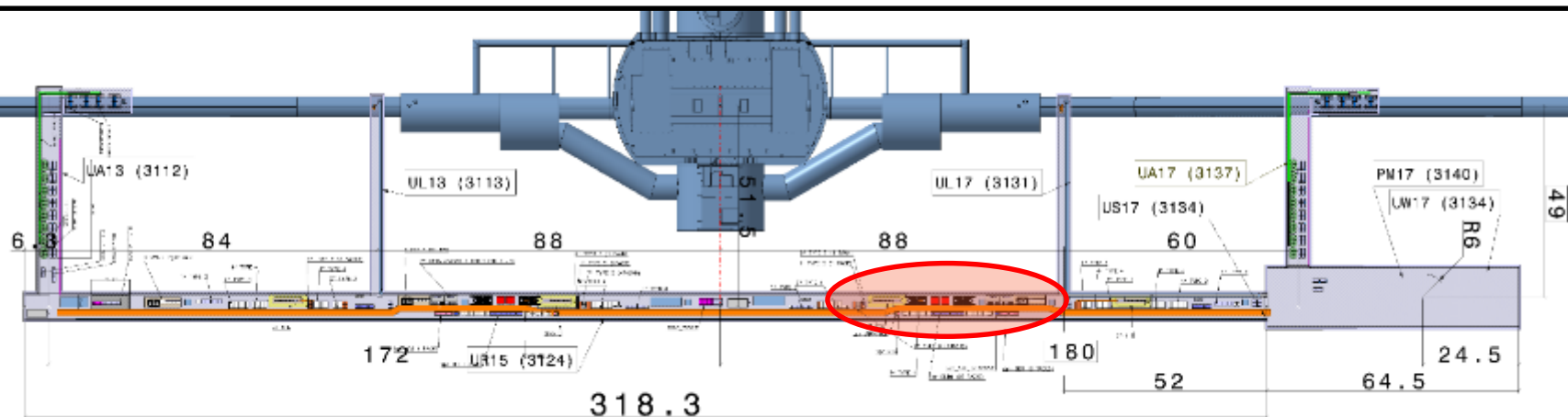
Overall view: US, UW, URs, UAs and ULs



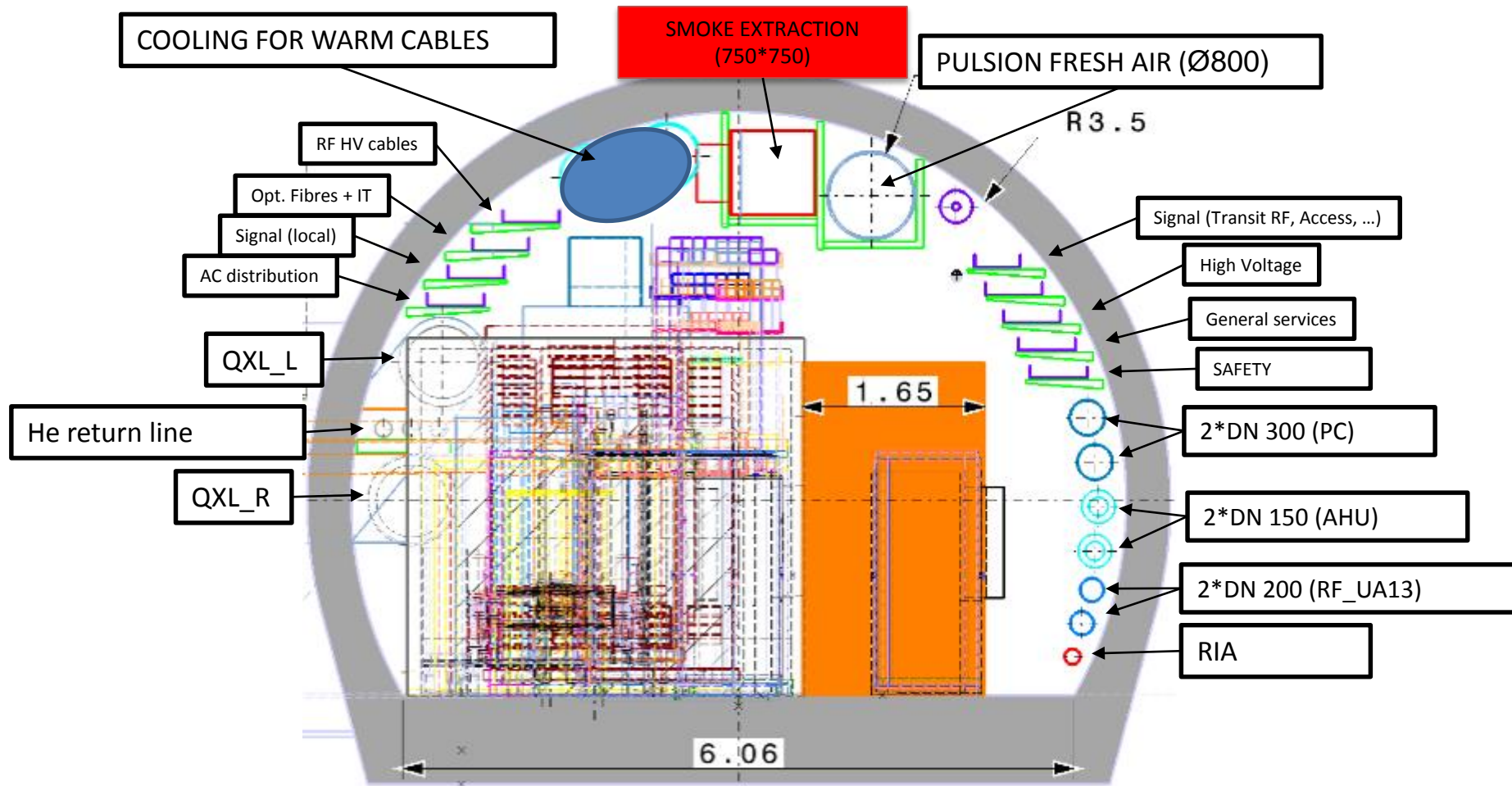
SC Magnet Powering I: D2 to Q6



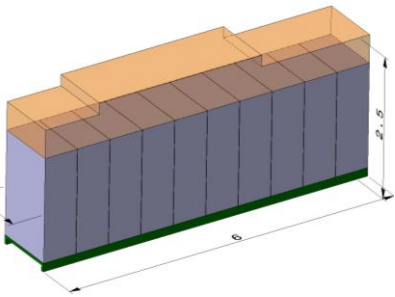
SC Magnet Powering II: Q1 to D1



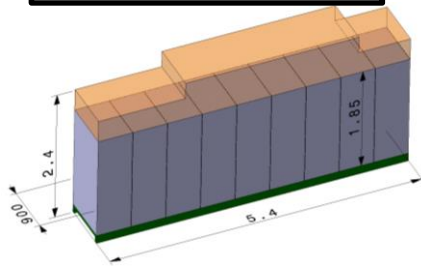
The most busy section with all longitudinal services



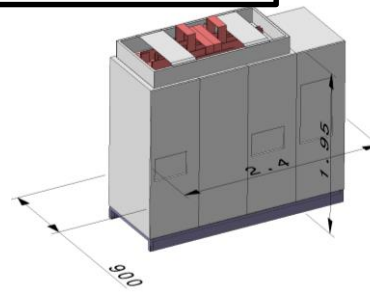
Type 1: 16.5kA



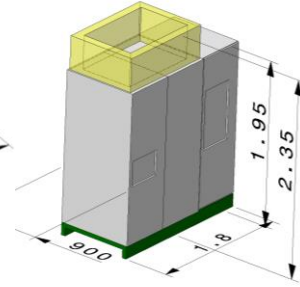
Type 2: 13 kA



Type 3: 6 kA



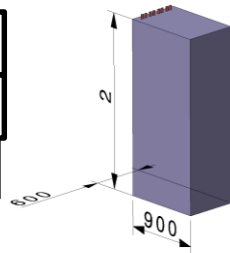
Type 4: 2kA



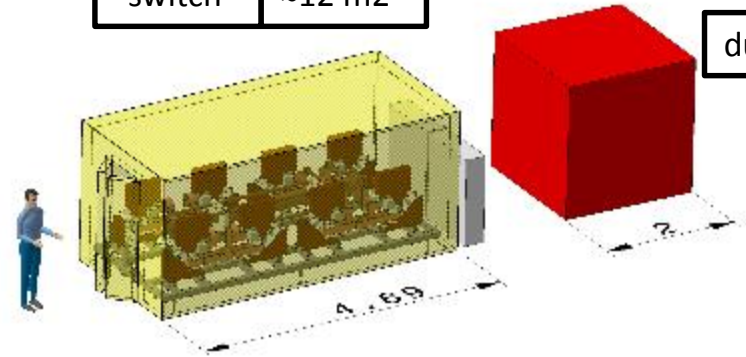
2 * Type 5(0.3kA) = 1 racks

2 * Type 6(0.2kA) = 1 racks

4 * Type 7(0.12kA)= 1 racks

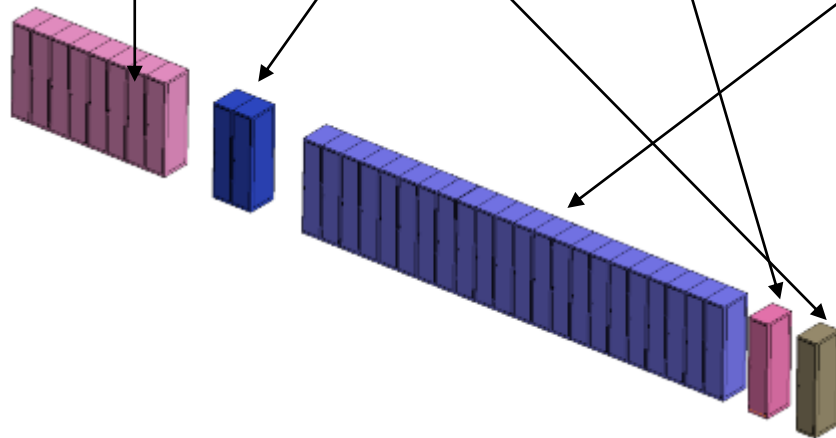


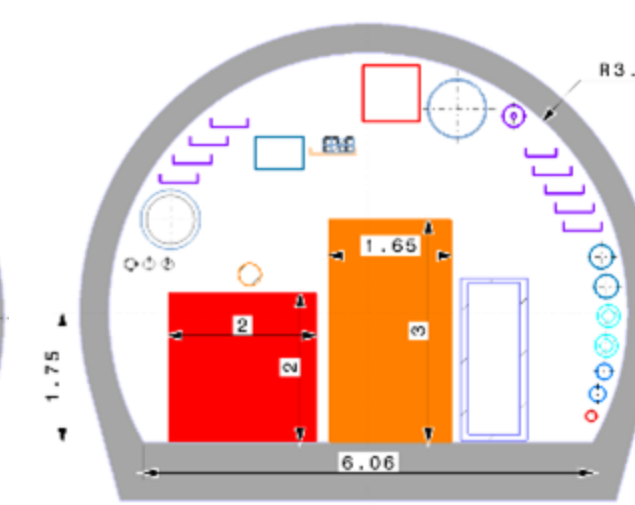
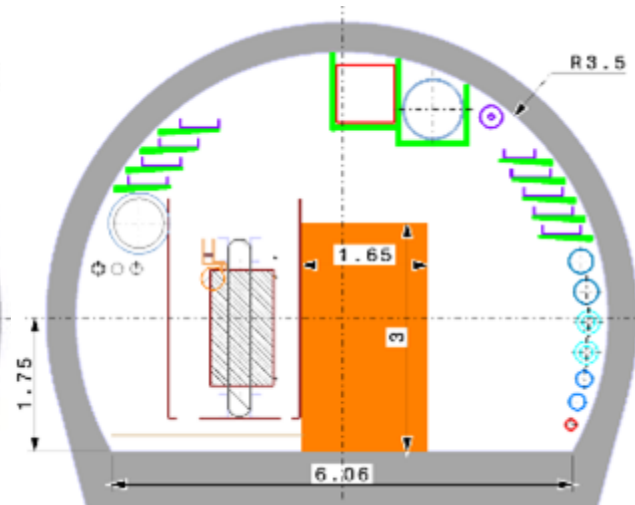
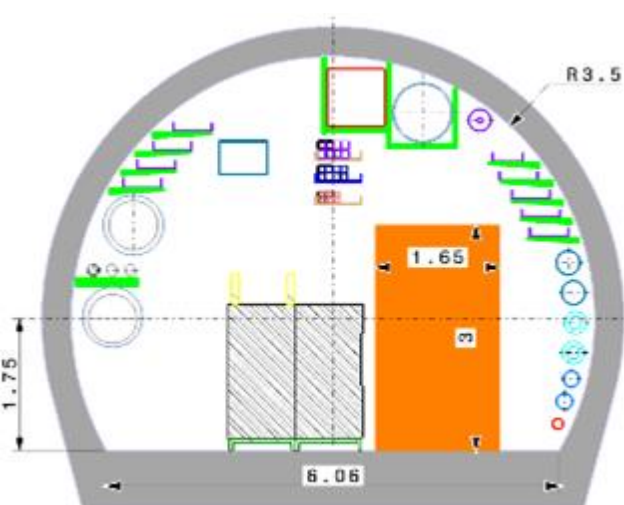
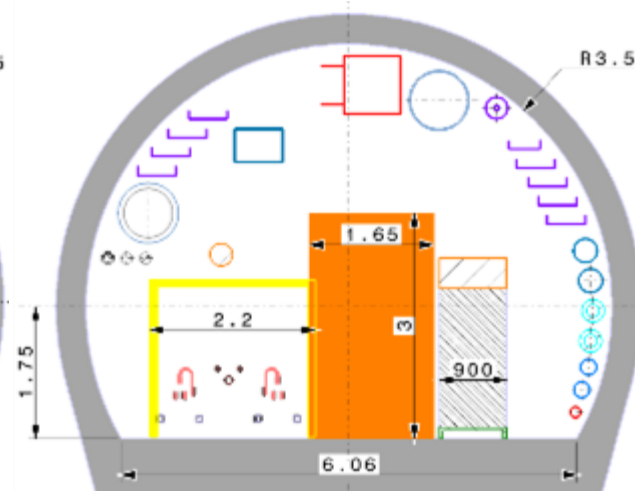
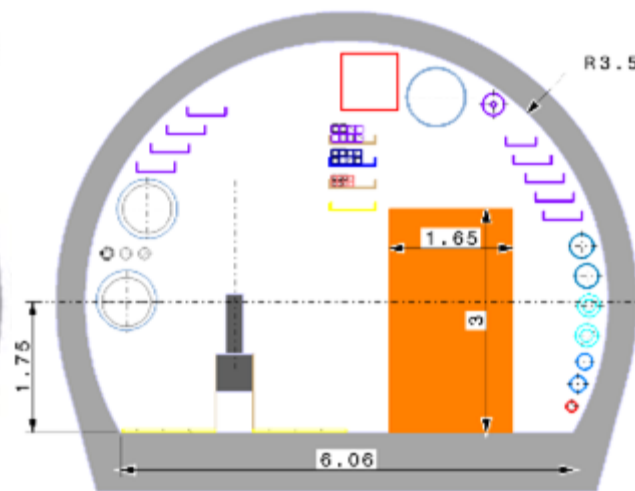
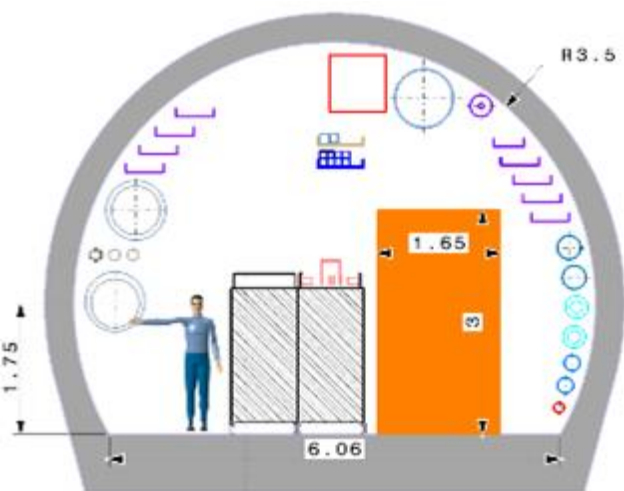
"switch" ≈12 m2



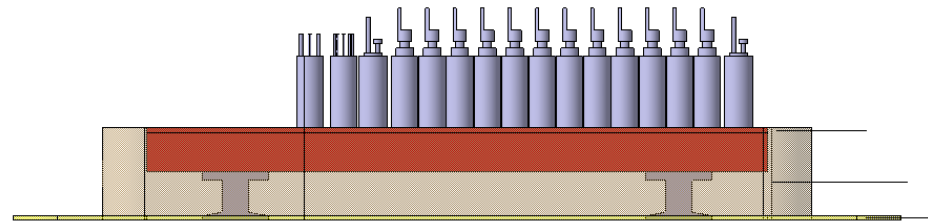
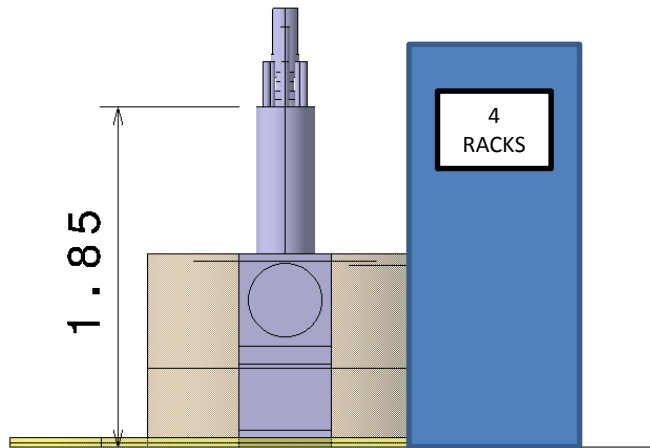
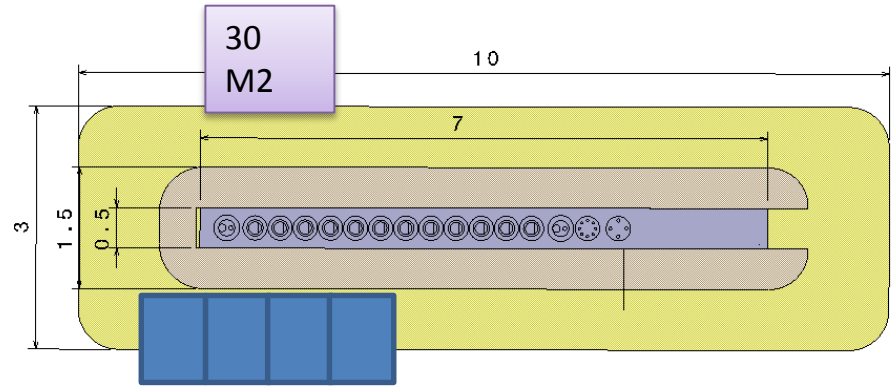
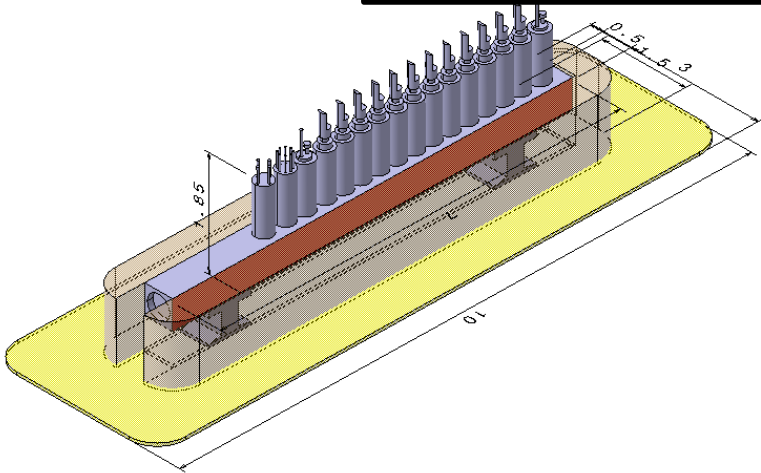
dump

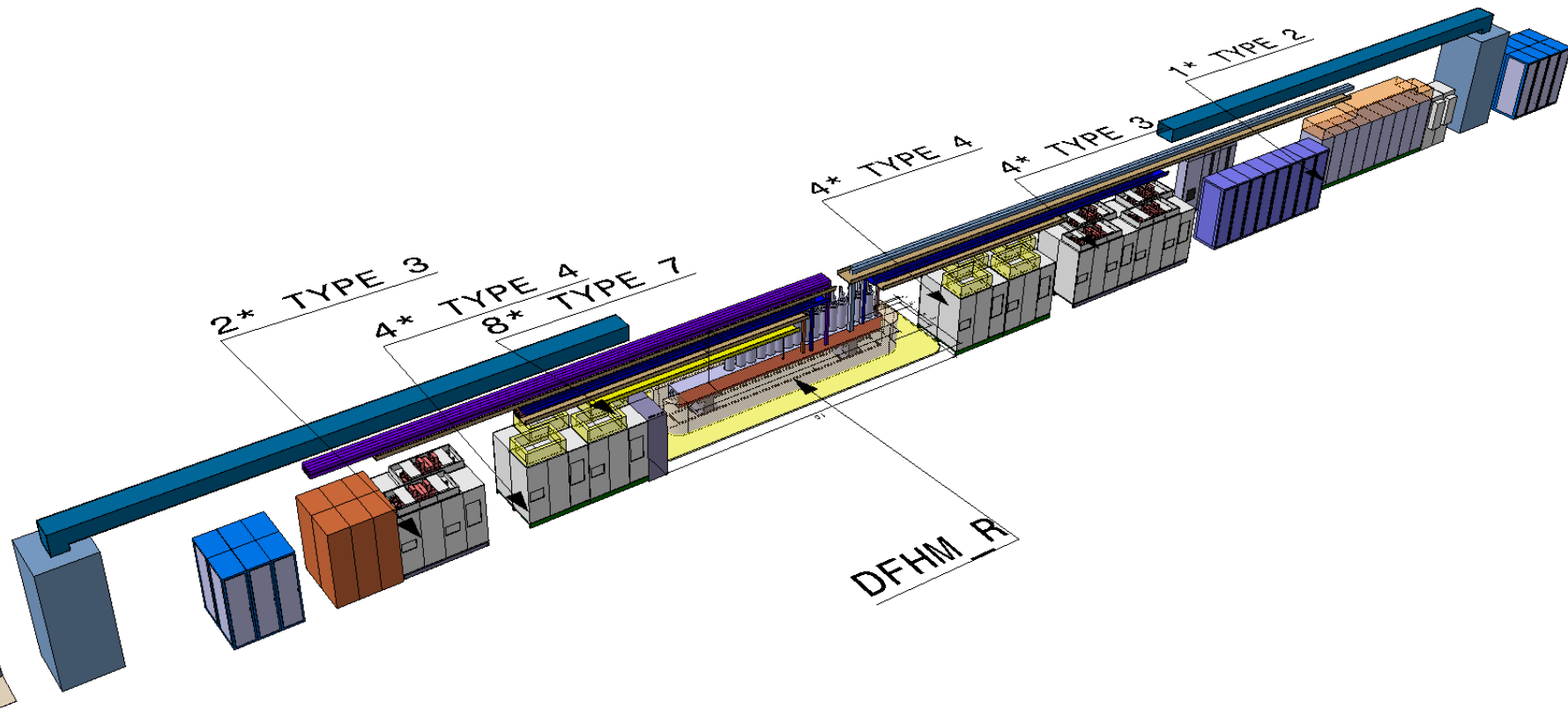
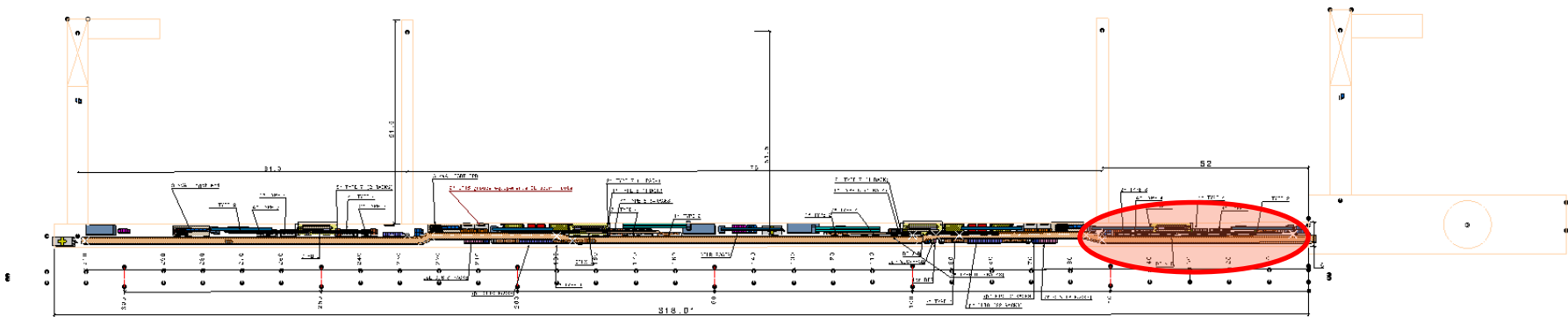
Location	Quench Detection Systems (QDS)	PIC	WIC/ FMCM	BIS	CLIQ
	# of Racks	# of Racks	# of Racks	# of Racks	# of Racks
L1	8	2	1	1	22

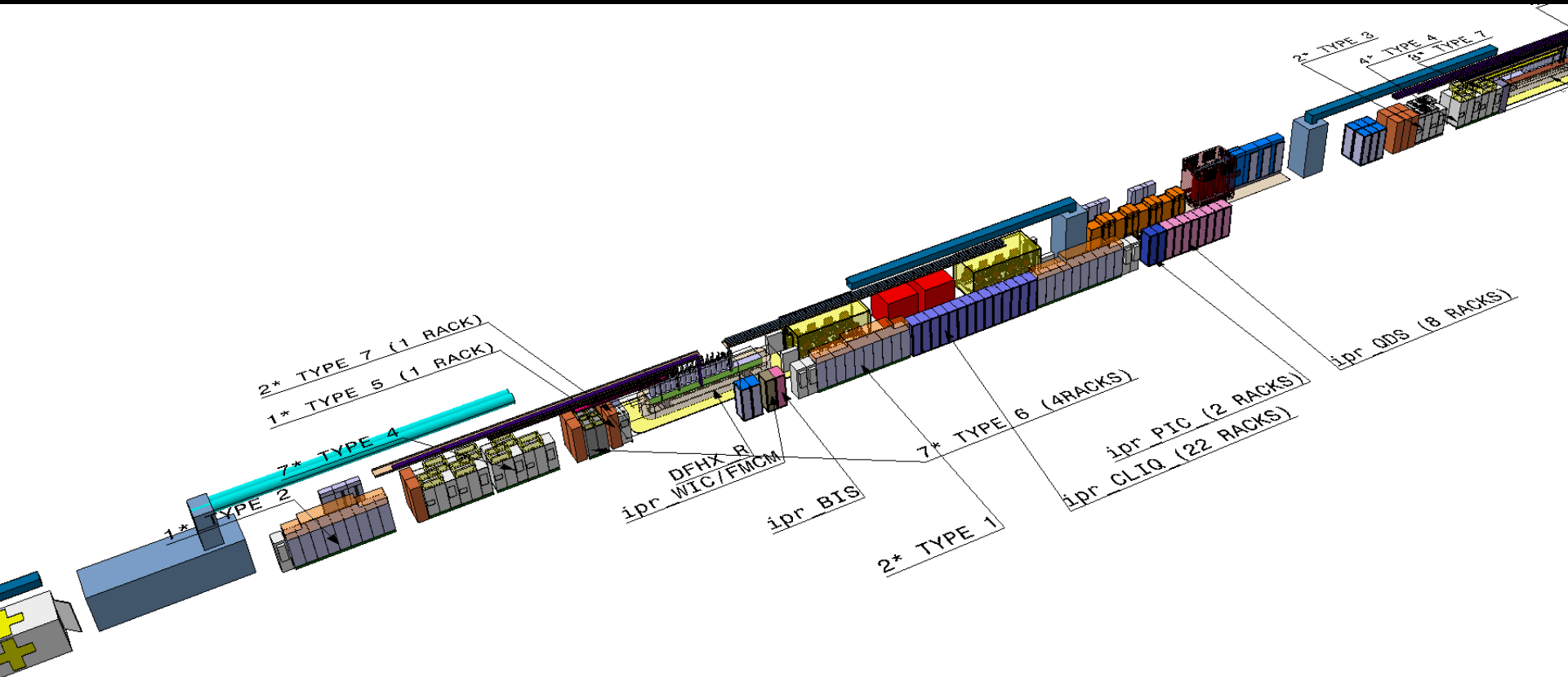
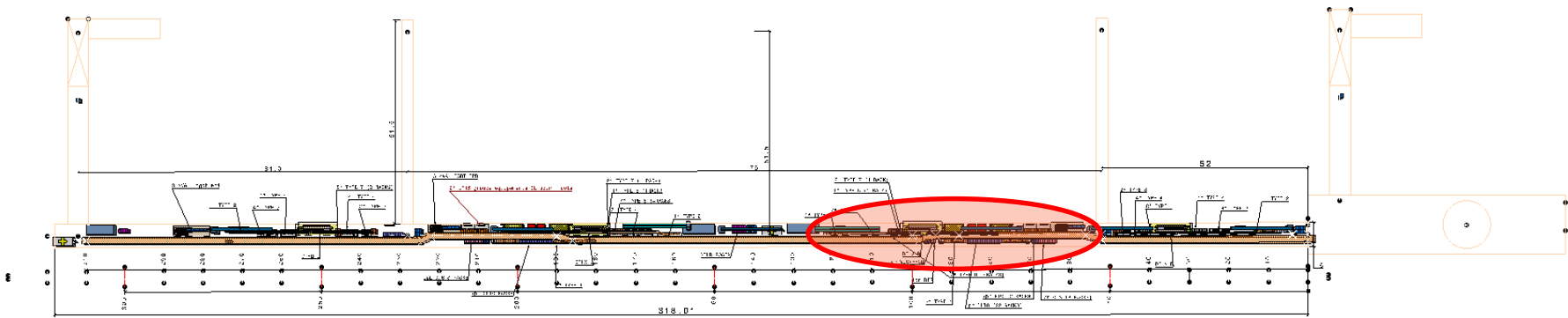




VOLUME DE RESERVATION POUR DFH (DFHM ET DFHX)







What we would need next

- Design and of the DFX and of the DFM in order of priority
- Routing from the DFX and DFM to the ULs
- Identify how to route the SC link from the DFHX and DFHM to the ULs
- Design of the DFX and DFM
- ULs routing
- ***Installation approach: services installed***



High Luminosity LHC



The HiLumi LHC Design Study is included in the High Luminosity LHC project and is partly funded by the European Commission within the Framework Programme 7 Capacities Specific Programme, Grant Agreement 284404.

